The Preiss Collection of Western Australian Fungi

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Abstract

Hilton, R. N. The Preiss Collection of Western Australian Fungi. Nuytsia 6(3): 295-304 (1988). The 41 specimens of different fungi collected by Ludwig Preiss between 1839 and 1841 are considered in the light of modern knowledge. They are arranged in order of Lehmann's numbers. Twenty-three of the specimens were described by Fries as new, of which type material of only one is extant. It is postulated that of the other 22 types the majority would have proved to be synonymous with Berkeley's previously published names: suggestions as to the identity of many of these are given. Of the 18 fungi identified by Fries as belonging to species already described from Europe, 11 have been re-collected.

Introduction

With the exception of two collections (2663 and 2677) specified as 1839, Preiss' collection of fungi was made in 1841. It thus represents the earliest collection of fungi made in Western Australia, pre-dating that of James Drummond by two years. However, the results of Drummond's collecting were published by M.J. Berkeley (1845), ahead of Fries' account of the Preiss specimens in 1846. It must be assumed that Fries was not aware of Berkeley's publication.

The Preiss collection of plants (including fungi and lichens) was distributed between a number of European botanical institutes (Candolle 1880; McGillvray 1975) with the cryptogams being included in the Berlin herbarium, destroyed during the 1939-45 war. The Preiss collection was not amongst those saved (Friederichsen pers. comm.; Hiepko 1978).

When the first Census of Western Australian larger fungi was being prepared (Hilton 1982) it was necessary to take into account the Preiss collections, at least so far as new species were concerned. My correspondence with European herbaria (see Acknowledgements) indicates that all the Preiss fungi must have been destroyed, with the exception of specimen No. 2682 at Uppsala (Santesson pers. comm.). The present publication records the basis on which the Preiss records were included in the Census, and gives botanical information from Fries' descriptions.

Ludwig Preiss was collecting in Western Australia from 1839 to 1841, arriving December 1838 and departing 8 January 1842 (Hasluck 1955; McGillivray 1975). He made 52 collections of fungi and lichens during this time. These were considered by Fries in the fungal section of Lehmann's "Plantae Preissianae" (1846). Fries described 23 of the 52 as new species of fungi, appearing again in Saccardo's "Sylloge Fungorum" (1882) with a grammatically corrected Latin description, in eight cases in new combinations. All of these new species were recorded in the Census of Western Australian larger fungi (Hilton 1982). The remaining 29 collections were omitted from the Census: two were duplicates of new species, nine were lichens, and 18 were known European species unsupported by citable specimens. Nevertheless, 11 of the 18 European species are supported by later collections and appear in the Census.

In the list that follows, a translation is given of Fries' Latin version of Preiss' notes on substrate, locality, and date of collection. English translations of all but 3 of Fries' descriptions are given by Cooke (1892) who omits *Stereum* No. 2686, 2687 and *Peziza melanodon* s.n. The *Stereum* species are listed by McAlpine (1895).

The following notes give comments on each record and a suggestion as to its identity, based on Fries' (1846) description. The Census referred to is that of Hilton (1982).

2663 *Agaricus (Lepiota) australius* Fr. in Lehmann, Pl. Preiss. 2: 131 (1846)

In sandy places of the woods on Mt Eliza, June 1839.

Notes: Fries records this as having the habit of *Lepiota procera* but with the pileus viscid. *Lepiota konradii* is the only local species of *Lepiota* that fits, but it does not have a viscid cap. It is in the Census as *Lepiota australiana* (Fr.) Sacc.

2664 *Agaricus (Pholiota) eriogenus* Fr. in Lehmann, Pl. Preiss. 2: 132 (1846)

On logs.

Notes: Cleland (1934 p. 104) tentatively ascribes a South Australian collection to this species on the basis of Preiss' and Cooke's description. It is in the Census as *Pholiota eriogena* (Fr.) Sacc. Following examination of the holotype of *Pholiota drummondii* (Berk.) Pegler at Kew, *P. eriogena* is concluded to be a later synonym of that species, not recollected until 1985 (Herb. UWA 3321).

2665 *Agaricus (Amanita) preissii* Fr. in Lehmann Pl. Preiss. 2: 131 (1846)

In shady sandy places of the woods, May.

Notes: A full description from a topotype is given by Bas (1969 p. 536). The name *Amanita preissii* (Fr.) Sacc. is used in the Census.

2666 *Agaricus (Pleurotus) eucalyptorum* Fr., in Lehmann, Pl. Preiss. 2: 131 (1846)

On *Eucalyptus* bark, July 1841.

Notes: The woolly bay-brown surface, and habitat on *Eucalyptus* bark, would fit *Lentinellus hepatotrichus* (Berk.) Reid. It is in the Census as *Pleurotus eucalyptorum* (Fr.) Sacc.

2667 *Agaricus (Psalliota) semiglobatus* Fr., Epicr. 220 (1838)

On horse manure.

Notes: The species is a well-known dung fungus of the State, now *Stropharia semiglobata* (Fr.) Sacc.

2668 *Agaricus (Psilocybe) ericaeus* Pers.: Fr., Epicr. 228 (1838)

On wet ground.

Notes: This species has been re-collected and appears in the Census as *Naematoloma ericaeum* (Fr.) Kühner, correctly *N. ericaeum* (Fr.) Singer.

2669 *Lentinus dealbatus* Fr. in Lehmann Pl.Preiss.2: 133 (1846)

On rotten logs, near Kelmsedth (*sic*). July 1841.

Notes: The locality is likely to be Kelmscott. Following examination of the holotype of *Lentinus fasciatus* Berk. (Pegler 1983 p. 165), *Lentinus dealbatus* is concluded to be a later synonym of that species.

2670 *Lentinus cochleatus* Fr., Hymen. Eur. 484 (1874)

On logs in New Holland.

Notes: This species has been re-collected and appears in the Census as *Lentinellus* P. Karst., the classification accepted by Pegler (1983 p. 226).

2671 *Panus cinnabarinus* Fr. in Lehmann Pl. Preiss. 2: 133 (1846)

In the foothills of the Darling Range near Kelmstedt (*sic*) at the base of trunks; and also on the withered leaves of monocotyledons. July 1841.

Notes: The locality is likely to be Kelmscott. It is listed in Pegler (1983 p. 226) as an excluded *Lentinus* species.

2672-2675 Lichens

2676 *Schizophyllum commune* Fr., Syst. mycol. 1: 330 (1821)

On the bark of dying logs, June 1841.

Notes: A well-known fungus of which the identity is not in doubt.

2677 *Boletus infractus* Fr. in Lehmann, Pl. Preiss, 2: 134 (1846)

On the ground, May 1839.

Notes: The description is inadequate for matching with modern collections of *Boletus* Fr., many of which have yet to be described.

2678-2679 *Boletus caesareus* Fr. in Lehmann, Pl. Preiss. 2: 134 (1846)

Perth Town in sandy soil.

Notes: The description matches the as yet unnamed collection UWA 3384 (R. Watling pers. comm.) of which several other collections have been made.

2680 *Boletus arenarius* Fr. in Lehmann, Pl. Preiss. 2: 134 (1846)

The "Gnucho" of the Aborigines. On sandy soil by the River Swan.

Notes: As for 2677. A number of boletes were eaten by the Aborigines, and "ngutjo" is a known general name for them (Bindon, pers. comm. 1985).

2681 *Polyporus (Apus) eucalyptorum* Fr. in Lehmann, Pl. Preiss. 2: 135 (1846)

The "Medop" of the New Holland Aborigines. On *Eucalyptus* trunks.

Notes: The description fits *Polyporus portentosus* Berk. This is *Piptoporus portentosus* (Berk.) G.H. Cunn. under which it is put in the Census. The dried flesh is a highly effective tinder (amadou) (Bindon, pers. comm. 1985) which may have been the white fungus material carried by Aboriginal women (Grey 1841, II p. 266). As *Polyporus portentosus* represents the earlier name, *P. eucalyptorum* is reduced in synonymy.

2682 *Polyporus (Mesopus) bulbipes* Fr. in Lehmann, Pl. Preiss. 2: 135 (1846)

On the ground.

Notes: Recombination (as *Polystictus*) in Sacc., Syll. Fung. 6: 211 (1887), In the herbarium at Uppsala (Santesson, pers. comm. 1972), and by synonymy traceable to *Polystictus oblectans* (Berk.) Sacc. now recognised by Ryvarden & Johansen (1980 p. 105) as the European species *Coltricia cinnamomea* (Pers.) Murrill.

2683 *Polyporus (Apus) fulvus* Scop.: Fr., Epicr. 466 (1836)

On the trunks of trees. The extremely long-lived specimen stands out along with the common form collected on a species of *Eucalyptus* (White Gum in English), receding, with pileus pulvinate to ungulate blackish, very cracked and broken up.

Notes: White Gum is *Eucalyptus wandoo* Blakely. *P. fulvus* is *Phellinus pomaceus* (Pers.) R. Maire (Bondartsev 1953 p. 359), a European species for which the common *Phellinus rimosus* (Berk.) Pilát can easily be mistaken, and under which name it appears in the Census.

2684 *Polyporus (Apus) sanguineus* Meyer: Fr., Syst. mycol. 1: 371 (1821)

In shady woods on rotten wood especially of *Melaleuca papyracea.*

Notes: *Pycnoporus. As Pycnoporus sanguineus* (Fr.) Murr. is a tropical species (Bondartsev 1953 p. 475; Nobles & Frew 1962), this record was taken in the Census to represent the Southern Hemisphere temperate species *Pycnoporus coccineus* (Fr.) Bond. & Singer.

2685 *Polyporus (Resupinatus) parilis* Fr. in Lehmann, Pl. Preiss. 2: 136 (1846)

On bark.

Notes: A number of yellow species of *Poria* or resupinate polypores fit the description. It appears in the Census as *Poria parilis* (Fr.) Sacc.

2686 *Stereum (Apus) umbrinum* Fr. in Lehmann, Pl. Preiss. 2: 137 (1846)

On bark of *Banksia menziesii.* July 1841.

Notes: Omitted by Cooke (1892), but included by McAlpine (1895 p. 66).

2687 *Stereum (Apus) vittaeforme* Fr. in Lehmann, Pl. Preiss. 2: 137 (1846)

On the bark of *Acacia*, Blank-Wattle (*sic*) in English. July 1841.

Notes: Omitted by Cooke (1892), but included by McAlpine (1895 p. 66). Blank-Wattle is presumably Black Wattle, perhaps *Acacia saligna*. The epithet "*vittiforme*" in the Census is an orthographic correction.

2688 *Thelephora (Mesopus) concrescens* Fr. in Lehmann, Pl. Preiss. 2: 136 (1846)

In hidden wet places on the bank of the Canning River over old wood.

Notes: Cunningham (1963 p. 335) states that no type is known. From the description *Tremelloscypha australiensis* Reid has a strong similarity.

2689 *Thelephora (Merisma) myriomera* Fr. in Lehmann, Pl. Preiss, 2: 137 (1846)

On land at the same place as the above (i.e. 2688).

Notes: Cunningham (1963 p. 337) states that the type no longer exists. From the description *Tremelloscypha australiensis* Reid has a strong similarity.

2690 *Clavaria (Ramaria) plebeia* Fr. in Lehmann, Pl. Preiss, 2: 137 (1846)

In sandy places, 8 June 1839.

Notes: It is unlikely that Preiss would have failed to collect one of the common Jarrah Forest ramarias, for example *Ramaria ochraceo-salmonicolor* (Cleland) Corner, which starts white and tough as described for this species. A recombination in *Ramaria* has not been made either by Saccardo or any other worker.

2691 *Peziza (Humaria) ollaris* Fr., Syst. mycol. 2: 68 (1822)

In forest clearings near to Lake Daujamlur (*sic*), 16 July 1839.

Notes: The locality might be Lake Joondalup; maps dating from the time give no clue. No reference later than Saccardo (1882) can be found for this species, even from Northern Hemisphere literature. It is in the Census as *Humaria ollaris* (Fr.) Sacc.

2692 *Lycoperdon pusillum* Fr., Syst. mycol. 3: 53 (1829)

In somewhat muddy shaded areas and low-lying places, flooded in winter, sandy below, June 1841.

Notes: The species was collected by Drummond under the synonym *Lycoperdon gemmatum* Batsch. (Hilton 1983), and also appears in the Census as *Lycoperdon pusillum* Pers. from later collections.

2693 *Nidularia crucibulum* Fr., Syst. mycol. 2: 29 (1822)

On friable bark of *Eucalyptus*, White Gum in English, near Kelmsedth (*sic*) on the Canning River, June 1841.

Notes: White Gum is *Eucalyptus wandoo* and the locality is likely to be Kelmscott. The species has been re-collected many times under its current name, *Crucibulum laeve* (Huds.) Kambly.

2694 *Colus* (as "*Coleus*") *hirudinosus* Lév., Annal. Sc. Nat. 3: 252 (1835)

In clearings around the small town of Perth, June 1841.

Notes: The Census errs in indicating this as a type and also in assuming it to have been *Clathrus pusillus* Berk. The only collection under this name prior to publications of the Census was in fact *Clathrus pusillus* (Cunningham 1944 p. 109). Subsequently the species *Colus hirudinosus* has been re-collected (Herb. UWA 3378).

2695 *Geaster pusillus* Fr. in Lehmann, Pl. Preiss. 2: 139 (1846)

In sandy soil by the Canning River. June 1841. Very rare.

Notes: = *Geastrum pusillum*. The description fits several of the common species of *Geastrum* Pers..

2696-2700 Lichens. Listed in Lehmann's index, p. 428.

2701-2702 *Favolus discolor* Fr. in Lehmann, Pl. Preiss, 2: 136 (1846)

On the bark of trees.

Notes: Subsequently placed by Fries in *Hexagonia* Fr. It appears in the Census as *H. discolor* (Fr.) Fr.

2703 *Agaricus (Pholiota) praecox* Pers.: Fr., Epicr. 162 (1836)

On the ground.

Notes: In the Census as *Pholiota praecox* (Pers.: Fr.) Sacc., without a citable collection. A well-known European species, *Agrocybe praecox* (Pers.: Fr.), Fayod, which has not yet been re-collected.

2704 *Polysaccum degenerans* Fr. in Lehmann, Pl. Preiss. 2: 139 (1846)

In sandy places by the Swan River around the small town of Perth. Along with *Scleroderma geaster*. Collected by Preiss m. June 1841.

Notes: The Census errs in not listing it as a new species, but the description is clearly of *Pisolithus tinctorius* (Mich.: Pers.) Coker & Couch.

s.n. *Agaricus (Collybia) lepidopus* Fr. in Lehmann, Pl. Preiss. 2: 131 (1846)

Notes: The description is from Preiss' drawing only. It appears in the Census as *Collybia lepidopoda* (Fr.) Sacc.

s.n. *Agaricus (Pleurotus) spongiosus* Fr., Epicr. 130 (1836)

On rotten wood on low-lying sandy soils.

Notes: Fries identified this from Preiss's drawing only. It is not included in the Census or in Cooke (1892).

s.n. *Agaricus (Flammula) peregrinus* Fr., Epicr. 191 (1836)

The drawing made by Preiss referred to here; no information about the specimen.

Notes: Fries identified this from Preiss's drawing only. It is not included in the Census but is listed by Cooke (1892 p. 51).

s.n. *Agaricus (Psilocybe) atrorufus* Schaeff.: Fr., Syst. mycol. 1: 293 (1821)

From Preiss' drawing without manifest difference from that of Europe.

Notes: Fries identified this from Preiss's drawing only. It was included in the Census as *Psilocybe atrorufa* (Schaeff. : Fr.) Quēl. but should not have been in the absence of a later collection.

s.n. *Boletus subsimilis* Preiss: Fr. in Lehmann, Pl. Preiss. 2: 134 (1846)

Collected in May.

Notes: This is not supported by a drawing or numbered specimen, but with a Latin description by Preiss himself. It was accepted by Fries as a valid new species and is therefore included in the Census. Preiss comments that it is somewhat similar to *Boletus lividus* Fr., a species now placed in the genus *Gyrodon* Opat. and not found in Australia.

s.n. *Polyporus (Apus) hispidus* Fr., Syst. mycol. 1: 362 (1821)

On the bark of *Eucalyptus* (Mahagang (*sic*) in English) July 1841. Very rare.

Notes: Mahagang is Mahogany, i.e. Jarrah. This fungus appears to have been identified by Preiss but is unlikely to have been this well-known Northern Hemisphere species of *Inonotus* P. Karst.which has not otherwise been recorded for Australia. It is more likely to have been *Tyromyces pelliculosus* (Berk.) G.H. Cunn., the Furry Punk, a species recorded on Jarrah from Western Australia and included in the Census as *Polyporus pelliculosus* Berk.

s.n. *Tremella lutescens* Pers.: Fr., Syst. mycol. 2: 213 (1822)

On bark. Preiss Herbarium without number.

Notes: Identified by Preiss. This is the common bright yellow Jelly Fungus, in the Census as *Tremella mesenterica* Retzius : Fr., of which *T. lutescens* is a synonym, following McNabb (1966 p. 536).

s.n. *Peziza (Geopyxis)* sp.

In sandy places of low-lying ground, July 1841.

Notes: Not included in the Census. This could be one of many species of *Peziza* Dill. or *Geopyxis* (Pers.) Sacc.

s.n. *Peziza (Humaria) melanodon* Fr. in Lehmann, Pl. Preiss, 2: 138

In sandy soil of the woods on the left bank of the Canning River, after rains.

Notes: Omitted by both Cooke (1892) and McAlpine (1895). This was accepted by Fries as a new species from Preiss' drawing and description only, and is therefore included in the Census as *Humaria melanodon* (Fr.) Sacc.

s.n. *Scleroderma geaster* Fr., Syst. mycol. 3:46 (1829)

In sandy places by the Swan River collected by Preiss at the same place and time as the above (i.e. 2692).

Notes: Included in the Census on the basis of a subsequent collection.

Conclusion

Despite the brief descriptions that omit spore details and other features regarded as essential for modern diagnosis, most of the 41 different fungi collected can be recognised as known Western Australian species. The one Preiss herbarium specimen that survives represents the common species *Coltricia cinnamomea* (Pers.) Murrill, also collected by Drummond. Those that have been lost appear to have been of other species common today. The twelve unnumbered records appear not to have been supported by specimens in the first place. Because of the priority of the Berkeley names, most of the 23 new names published by Fries would have been reduced to synonymy.

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